

# PATENT ABSTRACTS OF JAPAN

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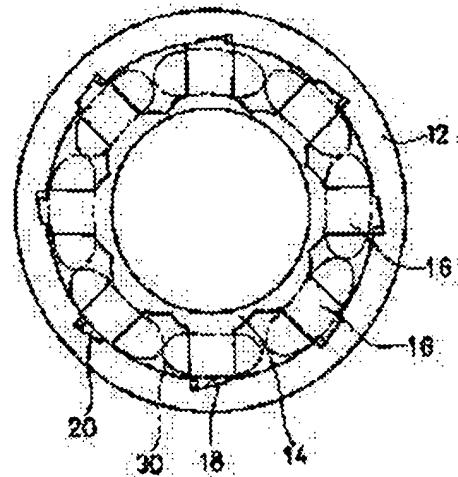
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## (54) STATOR CORE AND ITS MANUFACTURE

### (57)Abstract:

**PURPOSE:** To provide a stator core where tooth cores can be mounted to a core back easily and accurately and its manufacturing method.

**CONSTITUTION:** In a stator core 10 consisting of eight tooth cores 16 projecting outward from the outer-periphery part of a bridging part 14 and a core back 12, a projecting piece 20 is allowed to project from the outer-edge part of the tee scores 16, an inclination part which is inclined only in one direction is formed at the tip of the projecting piece 20, and then a recessed part 18 which is slightly larger than the projecting piece 20 and whose inner-edge part is cut out obliquely is provided at the inner-periphery side of the core back 12.



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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the stator core and its manufacture approach of an outer coil method of a motor.

[0002]

[Description of the Prior Art] After forming a tea score and the core back in another object and twisting a coil around a tea score in the stator core of the outer coil method of a motor conventionally, some which fix a tea score to the core back and form a stator core are.

[0003] As an approach of fixing this tea score 116 and the core back 112, the sector protruding piece 120 is formed in the point of two or more tea scores 116 projected to the method of outside [ section / of the bridge section 114 / periphery ], and the crevice 118 corresponding to the protruding piece 120 of said sector is established in the core back's 112 inner circumference section. And the protruding piece 120 of the tea score 116 is pressed fit in shaft orientations in the core back's 112 crevice 118, and it is fixing (refer to drawing 4 ).

[0004]

[Problem(s) to be Solved by the Invention] However, since the process of carrying out press fit fitting of the tea score 116 to it being the above-mentioned fixed approach at the core back 112 is required, a routing becomes complicated.

[0005] Moreover, at the time of press fit of the tea score 116, the excessive force joins this tea score 116, and bore precision may be worsened. Therefore, cautions are required for the handling of a work piece, and rework may be needed when precision goes wrong.

[0006] Then, this invention offers the stator core which can attach a tea score in the core back with an easily and sufficient precision, and its manufacture approach in view of the above-mentioned trouble.

[0007]

[Means for Solving the Problem] In the stator core which the stator core of claim 1 of this invention turns into from two or more tea scores projected to the method of outside [ section / of the bridge section / periphery ], and the approximate circle annular core back the ramp which the protruding piece was made to project and inclined at the tip of said protruding piece from the heel of said tea score only in the one direction -- forming -- said core back's inner circumference side -- said protruding piece -- some -- large -- and -- among those, a edge -- slant -- notching - - him -- \*\*\*\*\* is prepared.

[0008] In the stator core of claim 1, after the manufacture approach of the stator core of claim 2 of this invention inserts said protruding piece in shaft orientations in said crevice, it is made to rotate to the ramp side of this protruding piece, and it engages this crevice with this protruding piece, and welds or pastes up said engagement part.

[0009] In the stator core of claim 1, after the manufacture approach of the stator core of claim 3 inserts said protruding piece in shaft orientations in said crevice, it is made to rotate to the ramp side of this protruding piece, and it engages this crevice with this protruding piece, and unifies said engagement part by mold.

[0010]

[work --] for The case where a stator core is manufactured by the approach of claim 2 is explained using the stator core of claim 1.

[0011] After aligning with the core back's crevice the protruding piece of a stator core around which the coil was wound by the outer coil method, a protruding piece is inserted in shaft orientations in a crevice. In this case, since it is greatly formed a little from the protruding piece, a crevice can be inserted easily.

[0012] After inserting a protruding piece in a crevice completely, a protruding piece is rotated to the ramp side, and a ramp and the core back's common-law marriage section are made engaged.

[0013] Then, this engagement part is welded or pasted up and a tea score and the core back are fixed completely.

[0014] Next, the case where a stator core is manufactured by the manufacture approach of claim 3 is explained using the stator core of claim 1.

[0015] Like the approach of claim 2, after making a crevice engage with a protruding piece, said engagement part is unified by mold. Thereby, a tea score and the core back are fixed completely.

[0016]

[Example] Hereafter, one example of this invention is explained based on drawing 1 - drawing 3.

[0017] A sign 10 is a stator core after an assembly, and consists of a tea score 16 of eight T forms connected from the core back 12 and the bridge section 14.

[0018] Eight crevices 18 are established in the core back's 12 inner circumference section at equal intervals. the common-law marriage section of this crevice 18 -- slant -- notching -- he and each common-law marriage section incline in this direction.

[0019] The protruding piece 20 has projected in the heel of the tea score 16. The point of this protruding piece 20 is formed aslant, and has the ramp 22. And the inclination direction of this ramp 22 inclines in the same direction also as eight protruding pieces 20. And the magnitude of a crevice 18 is formed more greatly than the magnitude of a protruding piece 20.

[0020] The case where the stator core 10 of the above-mentioned configuration is manufactured is explained.

[0021] (1) Manufacture the core back 12 and the tea score 16 to one by \*\*\*\*. In this case, the clearance between some is opened between a crevice 18 and a protruding piece 20, and \*\*\* is performed so that a protruding piece 20 and a crevice 18 may be formed. Thereby, a crevice 18 and a protruding piece 20 are formed in coincidence.

[0022] (2) Insert the protruding piece 20 of this twisted tea score 16 in shaft orientations in the core back's 12 crevice 18 after twisting a coil 30 around the tea score 16 at an outer coil method. In this case, since it is greatly formed a little from the protruding piece 20, it is not necessary to press a crevice 18 fit like before, and it can be inserted easily, and the tea score 16 is not distorted by this insertion, or it is not carried out.

[0023] (3) Rotate the tea score 16 in the inclination direction of a ramp 22 after inserting the tea score 16 in a crevice 18 completely. A ramp 22 and the common-law marriage section of a crevice 18 are engaged, and the tea score 16 and the core back 12 are fixed by this.

[0024] (4) eight protruding pieces 20 and crevices 18 -- spot welding -- or paste up and fix both completely.

[0025] Since it can fit in easily by the above, without carrying out press fit fitting in case the tea score 16 is fixed with the core back 12, the tea score 16 is not distorted. Moreover, since the tea score 16 is rotated and attached to the core back 12, it can align.

[0026] Moreover, since it is not necessary to carry out the press fit process of the tea score 16, laminating thickness of a core can be made large. Furthermore, since dimensional accuracy is improved, the yield of a routing is improved and quality can be stabilized.

[0027] In the above-mentioned example, although spot welding of a protruding piece 20 and the crevice 18 was carried out, it may change into this and rigidity may be given by carrying out mold inside metal mold and really fabricating both.

[0028]

[Effect of the Invention] It can fix to inserting the protruding piece of a tea score in the core back's crevice by the above, as it is the stator core of this invention, and rotating, can align by not carrying out press fit fitting, and can assemble with a sufficient precision easily.

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[Translation done.]

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**DESCRIPTION OF DRAWINGS**

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**[Brief Description of the Drawings]**

[Drawing 1] It is the top view of a stator core showing one example of this invention.

[Drawing 2] It is a tea score and the core back's important section expansion top view, and is in the condition which inserted the tea score in the core back.

[Drawing 3] Similarly, it is in the condition which carried out rotation insertion of the tea score to the core back.

[Drawing 4] It is the important section expansion top view of the conventional stator core.

**[Description of Notations]**

10 Stator Core

12 Core Back

14 Bridge Section

16 Tea Score

18 Crevice

20 Protruding Piece

22 Ramp

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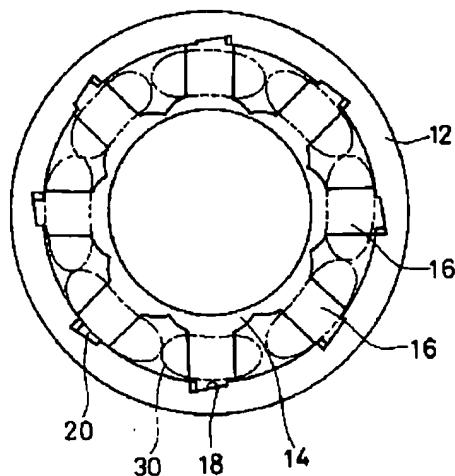
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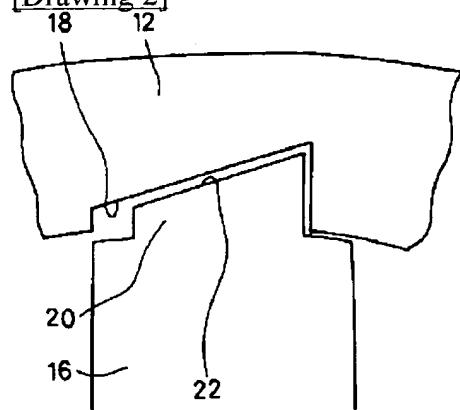
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## DRAWINGS

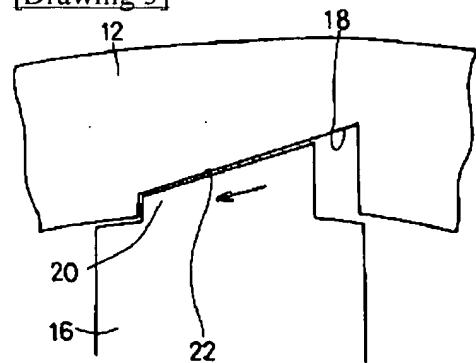
[Drawing 1]

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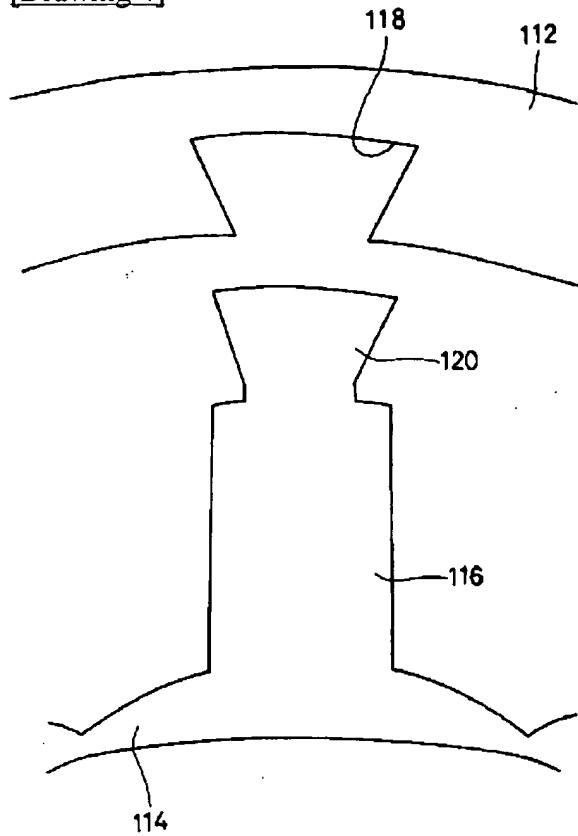
[Drawing 2]



[Drawing 3]



[Drawing 4]



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